

# KNOWLEDGE

VOL. 4 JANUARY 2010

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

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ARMY STRONG

**A HAND OF BROTHERS  
& SISTERS**

# KNOWLEDGE

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U.S. ARMY COMBAT READINESS/SAFETY CENTER

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**Mission statement:** The United States Army Combat Readiness/Safety Center (USACR/Safety Center) supports our Army by collecting, analyzing and communicating actionable information to assist Leaders, Soldiers, Families and Civilians in preserving/protecting our Army's combat resources.

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**H**appy New Year to everyone! January brings a sense of renewal and an opportunity to reflect on our past missteps and successes and map out a plan to make the coming year the best yet. Regarding accidents, our Army had a pretty good year in 2009. In fact, it was the best year since the terrorist attacks of Sept. 11, 2001. We can do even better in 2010 by taking a look at where we've been, finding those areas we can improve and renewing our commitment to keeping our great Soldiers, our "Band of Brothers and Sisters," safe in the months and years ahead.



**A BAND OF BROTHERS  
& SISTERS**

# NG MITMENT LDIER SAFETY

“WE SAW in 2009  
that ENGAGED  
LEADERSHIP at ALL  
LEVELS of command  
DOES indeed WORK  
in KEEPING our  
SOLDIERS SAFE and  
MISSION-READY.”



Here's a broad look at the numbers for fiscal 2009. Overall, Army fatalities were down 16 percent from fiscal 2008, with a reduction of just over 42 percent for the five-year period since the beginning of fiscal 2005. That's great news for the Soldiers, Families and civilians who make up our Army team and for engaged Leaders who have put forth great effort to drive down unnecessary losses.

We cannot allow positive statistics to lull us into complacency, however. The bottom line is 173 Soldiers were killed in accidents in fiscal 2009, the vast majority of them in off-duty privately owned vehicle (POV) accidents. Although both POV and motorcycle fatalities were down by about 13 percent in 2009, two specific factors — alcohol and/or speed — contributed to more than half these accidents. We also didn't reduce accidents across the board in 2009; fatalities in both Army Motor Vehicles and Army Combat Vehicles rose slightly from numbers logged in 2008.

We saw in 2009 that engaged leadership at all levels of command

does indeed work in keeping our Soldiers safe and mission-ready. We've also learned Soldier-to-Soldier and direct Family engagement are vital to our safety programs. Leaders, please continue to search within your formations for those areas that need improvement while simultaneously strengthening your proven safety practices. I encourage all Leaders to utilize our Leader Risk Assessment, Individual Risk Assessment and the soon-to-be-released "Soldier-to-Soldier" Assessments to gain insights into their formations and develop a way ahead.

Our problems with off-duty Soldier indiscipline call for Leaders to personally engage their Soldiers regarding individual responsibility in off-duty activities, particularly behind the wheel of a POV. Similar effort is needed on the tactical side, where fatal accidents involving speed and nonuse of restraint systems remain an all-too-common occurrence. "Safety sense" while driving is especially important during this time of year, when many of our Soldiers will encounter snow

and ice conditions in both their personal and tactical vehicles.

I am confident we can capitalize on this past year's many safety successes and make 2010 an even safer year for our total Army Family. A strong team effort and steadfast dedication to safety are proven winners in our strategy to eliminate needless losses, and the U.S. Army Combat Readiness/Safety Center stands ready to help as you renew your commitment to Soldier safety in 2010 and beyond.

Thank you for all you do to make each and every day safe for our Soldiers, Families and civilians. Have a happy, prosperous and safe new year!

WILLIAM T. WOLF  
Brigadier General, USA  
Director of Army Safety

# HOW DID OUR ARMY DO?

## Fiscal 2009 End-of-Year Review

MARY ANN THOMPSON, CHARISSE LYLE AND GLEN DAVIS  
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U.S. Army Combat Readiness/Safety Center  
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**T**he Army's accidental fatality numbers dropped in fiscal 2009 to their lowest level since the terrorist attacks of Sept. 11, 2001. Additionally, the accidental fatality rate, 0.24 per 1,000 Soldiers, is at its lowest since 1974, the year the Army Safety Management Information System began. Leading the way in the decline were privately owned motorcycle deaths, which dropped by 19 when compared to fiscal 2008.

During fiscal 2009, the Army experienced 173 accidental military fatalities. Overall, fatalities were down 16 percent from the 207 experienced in fiscal 2008. As seen in the chart to the right, privately owned vehicle (POV) accidents accounted for 64 percent of the fatalities, followed by personnel injury-other (PIO) accidents at 14 percent, Army motor vehicle (AMV) accidents at 12 percent, manned aviation accidents at 7 percent, Army combat vehicle (ACV) accidents at 3 percent and explosive and fire accidents at 1 percent. This article provides a more detailed breakdown of Army on-duty and off-duty accidental fatalities during fiscal 2009.

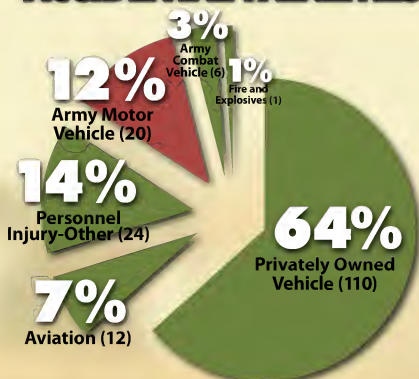
### ON-DUTY

There were 52 on-duty Soldier accidental fatalities in fiscal 2009, three fewer than in fiscal 2008. These deaths involved the AMV, ACV, manned aviation, explosive and fire and PIO. (Editor's note: In addition to these fatalities, a dismounted Soldier was fatally injured when he was struck by a POV.)





# FISCAL 2009 SOLDIER ACCIDENTAL FATALITIES



*Note: Green represents a decrease from fiscal 2008 numbers; red represents an increase.*

## GROUND

### Army Motor Vehicle

AMVs are all Army wheeled motor vehicles except the Stryker and Mine Resistant Ambush Protected (MRAP) vehicle. There were 20 Army military fatalities related to AMV accidents during fiscal 2009, two more Soldier deaths than the previous year. Of the 20 fiscal 2009 AMV fatalities, 18 occurred during Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF).

Tactical vehicle accidents accounted for 15 of the 20 fatalities, 12 of which involved the HMMWV. This total was three more HMMWV fatalities than in fiscal 2008. Of the 12

HMMWV fatalities, 11 occurred during OIF/OEF. The M1151 accounted for 10 of the 12 HMMWV fatalities.

### Army Combat Vehicle

ACVs include all tracked combat vehicles, as well as the MRAP and Stryker. There were six ACV-related Soldier accidental fatalities in fiscal 2009, which was down one fatality from the previous year. All six of the fatalities occurred during OIF/OEF.

Three of the six fatalities resulted from MRAP vehicles overturning and fatally injuring the gunner. One Stryker accident also involved a rollover, resulting in two Soldier deaths. The remaining ACV fatality resulted from an

M1117 Armored Security Vehicle rollover that fatally injured the gunner.

### Explosive and Fire

There was one Soldier accidental fatality due to fire in fiscal 2009, compared to two fatalities the previous year. A Soldier in Iraq died in a fire that started when he tried to ignite a propane stove with a lit piece of paper.

### Personnel Injury-Other

PIO accidents are Army accidents that involve injury to personnel not covered by any other accident type. There were 12 on-duty PIO accidental fatalities in fiscal 2009, compared to 14 fatalities in fiscal 2008.

Four of the fiscal 2009 fatalities occurred during OIF/OEF.

Physical training (PT) and weapons handling were the most frequent activities involved in the 12 PIO fatalities. Three PT-related fatalities included a Soldier suffering a heat injury during a road march, a Soldier collapsing after participating in organized flag football and a Soldier failing to surface while swimming as part of personal PT (the Soldier died four days later). There were two on-duty weapons-handling fatalities, including a Soldier death from a negligent discharge and a Soldier death from friendly fire.

Two fatalities involved parachuting, while two other

fatalities involved Soldiers being pinned by falling loads. One Soldier drowned when he fell into a river while on dismounted patrol in Iraq, and a Soldier drowned while participating in recreational swimming activities. Another Soldier was presumed drowned after he fell overboard from a tug during vessel qualification.

## AVIATION

The Army lost 12 Soldiers in fiscal 2009 aviation accidents, compared to 14 Soldiers killed the previous year. One-third of the fiscal 2009 fatalities occurred in OIF/OEF. The UH-60 Black Hawk, OH-58D Kiowa Warrior (KW) and AH-64 Apache were involved in these fatal accidents.

As depicted in the chart on page 7, fiscal 2009 Class A and B manned aircraft accidents increased by seven and three, respectively, from fiscal 2008. Class C accident numbers show a substantial decrease from fiscal 2008. However, in accordance with Army Regulation 385-10, units have 90 calendar days to submit their Class C accident reports to the USACR/Safety Center. Therefore,

this number will change as more reports are received.

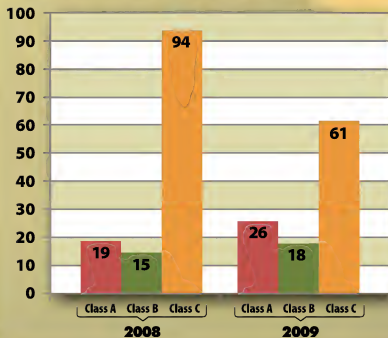
## Aviation Accident Areas of Concern

**Power management.** Power management errors caused four Class A accidents, three in the Black Hawk and one in the KW, and resulted in four Soldier deaths. All occurred in a mountainous environment and involved mission-planning errors. In three of these accidents, the crews did not take the prevailing tail winds into consideration.

**Materiel failures/malfunctions.** Three of the fiscal 2009 fatalities occurred in two accidents involving materiel failures: An engine failure in an AH-64D and an uncommanded flight control input of unknown origin that caused a pilot-induced, low-air-speed left pedal turn to become uncontrollable in a UH-60L. Additionally, there were 12 nonfatal accidents caused by



# MANNED AVIATION ACCIDENTS



definite or suspected materiel failures or malfunctions (five Class A, two Class B and five Class C). In three of the 14 accidents, the crews responded incorrectly to an in-flight materiel failure (two full authority digital electronic control [FADEC] failures and one engine failure), which increased the severity of the accidents.

**Wire strikes.** There were two Class A wire strikes, both occurring in Iraq at night during night vision goggles (NVG) flight, which resulted in two fatalities.

**Inadvertent instrument meteorological conditions (IIMC).** One fatal accident in Iraq involved an incorrect response to IIMC. While attempting a nighttime visual meteorological conditions approach, the crew

encountered IIMC but did not immediately initiate IIMC recovery procedures and transition to instruments. This delay allowed the pilot on controls to experience spatial disorientation and lose aircraft control, resulting in a destroyed aircraft, one Soldier fatality and 12 injuries.

**Maintenance test flight (MTF) autorotational checks.** Two Soldiers were fatally injured when their OH-58D(R) impacted the runway during an MTF autorotational check. The maintenance test pilot (MP) failed to ensure the throttle was increased to 100 percent before attempting the power recovery, thereby allowing airspeed and rotor rpm to decrease below that required for sustained flight. A similar accident occurred in which another MP also failed to return the

throttle to full power, causing the OH-58D(R) to impact the ground with Class A damage and injuries, but no fatalities.

**Emergency procedures training.** Eleven accidents occurred during emergency procedures training (one Class A, three Class B and seven Class C). The majority of these accidents involved simulated single-engine failures (seven in single-engine and two in dual-engine aircraft) and two OH-58D(R) FADEC manual throttle operations.

**Brownout.** There were four brownout accidents: one Class A with no fatalities and three Class B. All occurred in OIF/OEF during landings at night under NVG.

A common thread across the fiscal 2009 aviation accidents was a breakdown in crew coordination, which contributed to 43 percent of the Class A accidents. Examples include crewmembers failing to monitor flight instruments or assist in obstacle clearance and failure of crewmembers to announce decisions or actions that affected the ability of other crewmembers to properly perform their duties (e.g., announce go-around).



## OFF-DUTY

There were 121 off-duty accidental fatalities in fiscal 2009, including those related to motorcycles, sedans, other vehicles, pedestrians, PIO, sports and human movement.

### PRIVATELY OWNED VEHICLE

Fiscal 2009 ended with 109 off-duty POV Army military fatalities — 20 fewer than the previous year. The reduction in POV fatalities was accounted for largely by the decrease in fatal sport motorcycle accidents.

With many fiscal 2009 accident reports still pending, the USACR/Safety Center does not have a complete list of the causes of these accidents. However, current data indicate indiscipline to be among the leading causes of fatal POV accidents. When Soldiers know what's right but willfully choose an alternate course of action, we call that choice "indiscipline." Indiscipline can take many forms, including speeding, failure to wear a helmet or seat belt and driving under the influence.

### Motorcycles

Speeding was involved in 17 motorcycle fatalities in fiscal 2009. Of these, 12 Soldiers were riding sport motorcycles, four were riding cruisers and one was on an unidentified motorcycle type. Failure to wear helmets contributed to the deaths of four riders — two on sport motorcycles and two on cruisers. Leaders comprised the largest portion of fatal motorcycle accidents in fiscal 2009, with 73 percent of the victims between the ranks of E5-O2.

### Sedans

In fiscal 2009, 40 Soldiers were killed in

## SOLDIERS KILLED IN POV ACCIDENTS

Vehicle Type	Fiscal 2009	Fiscal 2008	Increase/Decrease
<b>Motorcycle</b>	<b>32</b>	<b>51</b>	<b>-19</b>
<b>Sedan</b>	<b>40</b>	<b>44</b>	<b>-4</b>
<b>Other POV</b>	<b>32</b>	<b>30</b>	<b>2</b>
<b>Pedestrian</b>	<b>5</b>	<b>4</b>	<b>1</b>
<b>Totals</b>	<b>109</b>	<b>129</b>	<b>-20</b>

## SOLDIERS KILLED IN MOTORCYCLE ACCIDENTS

Motorcycle Type	Fiscal 2009	Fiscal 2008	Increase/Decrease
<b>Sport</b>	<b>20</b>	<b>37</b>	<b>-17</b>
<b>Cruiser</b>	<b>10</b>	<b>7</b>	<b>+3</b>
<b>Not Reported</b>	<b>2</b>	<b>7</b>	<b>-5</b>
<b>Totals</b>	<b>32</b>	<b>51</b>	<b>-19</b>

sedan accidents, a reduction of four fatalities from fiscal 2008. Again, indiscipline appears to be a leading cause in these accidents. Sixteen Soldiers were killed in accidents involving excessive speed. Although wearing a seat belt is a proven method for reducing fatalities in POV crashes, many Soldiers still choose not to buckle up. In fiscal 2009, 12 Soldiers killed in sedan accidents were not wearing seat belts.

### Other POV

Other POVs include all-terrain vehicles, bicycles, Jeeps/SUVs/utility vehicles, station wagons, trucks and vans. In fiscal 2009, 32 Soldiers were killed in other POV accidents, two more than in the previous year.

Indiscipline figured prominently in these losses as well. As with sedan and motorcycle fatalities, speed was a leading cause of the

fiscal 2009 other POV fatal accidents. Ten Soldiers were killed in accidents where excessive speed was involved. Failure to wear seat belts was also a factor in several of the fiscal 2009 accidents. Of the 32 Soldiers who were killed, 10 were not wearing seat belts.

### Pedestrian

Five Soldiers were killed as pedestrians in fiscal 2009, an increase of one over fiscal 2008. Three of the five Soldiers died while attempting to cross multi-lane highways.

### Personnel Injury-Other

Off-duty PIO accidents in fiscal 2009 resulted in the deaths of 12 Soldiers. This is a significant decrease from fiscal 2008, when 22 Soldiers were killed.

Three of the fiscal 2009 Soldier fatalities resulted from water-related activities, including a Soldier who drowned when his raft



overturned, a Soldier who drowned while swimming in a lake and a Soldier who died from hypothermia after falling into a river.

Three Soldiers died from the negligent discharge of personal weapons, which included a rifle, shotgun and handgun. Two Soldiers died in parachuting accidents, one in a recreational skydiving class and the other while BASE (buildings, antennas, spans and earth) jumping. A Soldier was killed when he fell from a barracks window; a Soldier died from carbon monoxide poisoning inside his residence; a Soldier died when he walked through a glass door, severing an artery in his arm; and a Soldier died after he was struck by a tree that was being cut down.

## CONCLUSION

While the Army closed fiscal 2009 with an overall 16-percent decrease in Soldier fatalities, there is still much that can be done to prevent off-duty losses, which accounted for 70 percent of the total accidental fatalities. The many on-duty safety programs and policies that protect our Soldiers, in both combat and in garrison (on-duty), have to be applied in our approach to off-duty safety.

Safety is not a destination; it is a journey and, as such, must continually be adapted to an ever-changing environment. Leaders must help their Soldiers navigate and manage risk, both on and off duty. It is their responsibility and mission. Composite risk management should be inherent in every decision and Leaders must remain vigilant to protect

against risk and prevent accidents to preserve our force.

We must also remember that our Band of Brothers and Sisters does not dissolve when the duty day ends and we head home; nor is it limited to those who wear a uniform. It encompasses all the members of our Army team, 24/7. Likewise, our Families have a strong influence over their Soldiers, especially during off-duty time. Families, friends and peers are our Soldier's off-duty battle buddies and have the responsibility to remain watchful of the increased hazards associated with off-duty activities.

We all must embrace Army safety and use the tools, programs and lessons learned to protect our most vital resource — our Soldiers — both on and off duty in combat or home station and off-duty with Family and friends. Our Army simply cannot afford to give accidents the opportunity to strike again; we must remain vigilant about safety and apply composite risk management to all our daily activities, both on and off the battlefield. Safety begins with awareness and we can never "give safety the day off." ◀

*Editor's note: At the time this article was written, information on accidental fatalities experienced during this time frame was still filtering in to the U.S. Army Combat Readiness/Safety Center to be entered into the database, so the statistics and findings may change in the coming months.*



# WHAT DO YOU THINK?



From January through March, **KNOWLEDGE** magazine is conducting a survey to determine whether we're meeting our readers' needs. Please help us out by taking a couple of minutes to answer a few simple questions at <https://safety.army.mil/>.

After all, this is your magazine. Shouldn't it contain the information you find helpful?

# Keeping Soldiers in the Fight

1ST LT. BRANDON PHILLIPS  
AND 1ST LT. JARED HOFFMAN  
Forward Support Company, 84th Engineer Battalion,  
130th Engineer Brigade  
Afghanistan

**T**he gunner's restraint system (GRS) is often looked at by many Soldiers as just another type of seat belt restraint. However, our unit's combat experiences have shown just how important this system is. The GRS secures gunners in their vehicles, preventing them from being thrown out in the event of a rollover or the detonation of an improvised explosive device (IED). Two different incidents during our deployment illustrate this point.

## A Tale of Two Rollovers

During a combat logistical patrol, the trail vehicle in a convoy experienced a rollover while trying to avoid an obstacle at high speed. The driver overcompensated while attempting to regain control of his Mine Resistant Ambush Protected (MRAP) vehicle, and the gunner was ejected from his turret. The gunner's back was fractured in several places and nearly every bone in both arms was shattered. His injuries could have been limited had he been wearing his GRS. Thankfully, this Soldier survived and is making a steady, albeit lengthy, recovery stateside.

A closer investigation of the events leading to the rollover indicated that Leaders within the convoy failed to adequately inspect all vehicle gunners before departure. In this case, Leaders failed their Soldiers by not mitigating a potential risk involved in their mission. A simple check that only takes a matter of seconds could have prevented this Soldier's substantial injuries.

On a later mission along the same main supply route, an MRAP was involved in a crush-wire IED detonation that caused minor damage to the hull and destroyed a rear tire. The driver was unable to maintain control of the vehicle because of the blown tire and, subsequently, the MRAP overturned. Fortunately, this gunner was wearing his GRS. Although he suffered injuries, they were not as severe as in the previous rollover incident. This time, Leaders adequately inspected each gunner for their GRS before the start of their mission. The key Leader's attentiveness may very well have saved the life of this Soldier or, at the very least, prevented more significant injuries.

As these cases illustrate, Leaders cannot afford to overlook even the smallest ways to mitigate risks and keep their Soldiers safe. There are far too many ways to become a casualty in a combat zone. We have the best training and equipment in the world, but all of that becomes null and void when leadership fails their Soldiers. So do what's right — identify risks, mitigate them to the lowest level and safeguard your Soldiers. We owe it to them.

“Both **GARRISON** and **DEPLOYED MISSIONS** require a **CONSTANT REVIEW** of **RISKS** and developing **WAYS** to **MITIGATE** them.”

### Leaders are the Vital Key

Safety is one of the most important considerations Leaders must look at when planning and executing missions. Both garrison and deployed missions require a constant review of risks and developing ways to mitigate them. As a Leader in a deployed area of responsibility, there are scores of risks to take into account. Small-arms fire, IEDs, low-hanging wires, scorching temperatures and vehicle rollovers are just a handful of the risks Soldiers face downrange.

Thankfully, the equipment and resources available to Soldiers today are the best they have ever been. Items such as fire-retardant clothing, ballistic eye protection and state-of-the-art body armor have increased the level of protection for troops by leaps and bounds in recent years. In addition, MRAP vehicles protect troops with their thick armor hulls. They also possess enhanced optical devices that allow the quick and accurate identification of possible threats.

However, advances in protective equipment and technology can only take us so far. Leaders at all levels

can mitigate risk and ensure the safety of their Soldiers by conducting proper pre-combat checks and pre-combat inspections. Noncommissioned officers (NCOs) are the start point for this vital process. It should be the first-line supervisor, normally a sergeant or staff sergeant, who checks each Soldier to ensure they have all the pieces of gear and equipment required for their mission.

In our unit, when the Soldier's first-line supervisor verifies they have all the proper equipment, that NCO signs a checklist indicating the check was performed accurately. Senior Leaders can then conduct random spot checks of the personnel involved in the mission and take note of any deficiencies that could affect the mission. Even when high-ranking “guests” are along, the convoy leadership must make it a priority to inspect their equipment, as well. No Soldier is above this standard.

Aside from the individual Soldier and his equipment, combat vehicles must also be inspected with the same vigor. Vehicle operators and Leaders need to perform preventive maintenance checks and services, as well as inspect the multitude of new equipment found in the field today. Electronic warfare devices, objective gunner protection kits and other new devices must be a part of this process. As we related in the first half of this article, we know how important this is because of our experiences with the GRS. Properly used, the GRS and risk mitigation have proved to be a vital component in our unit's effort to enforce safety. «

# Troops In, Brown Out

**CHIEF WARRANT OFFICER 2 KENNETH G. MCALISTER**  
C Company, 3rd Battalion, 227th Aviation Regiment  
1st Air Combat Brigade, 1st Cavalry Division  
Fort Hood, Texas

**I**t was a cool November night. The mission called for an air assault insertion into a small village just north of Baghdad, Iraq. Although we were both pilots in command (PC), I was the air mission commander for this particular flight. It was our commander's practice to put two PCs in the lead aircraft, whenever possible, to lessen the workload of flight lead.

We took off from Taji shortly after 2300. The flight was not a long one, six minutes at the most. We soon picked up our landing direction, due north, and hit our release point. The AH-64 gunships (Chalk 2) for our close air support called our landing zone (LZ) "ice," a term used to indicate the LZ was free of hostile activity. We slowed to 70 knots indicated airspeed (KIAS) and performed our before-landing checks. I was on the controls and the PC was navigating and calling out airspeeds, altitude and distance to set up for a time-on-target landing. The LZ was small and situated in the middle of a small town surrounded on three sides by buildings and many small sets of wires.


The LZ was on a road that ran north to south, just north of an intersection with a berm on the east side parallel to it. I began our landing just after flying over the large set of wires along the intersecting road, but had to extend because of another set of wires that were on short final. I had accomplished plenty of brownout landings before; however, nothing — not even training in Kuwait — could have prepared me for this.

The brownout landing started out like any other landing, but it quickly got worse. I lost all visual references; nonetheless, I continued to hover until I

couldn't stand it any longer. I knew the ground was there and I knew I would eventually land. My thoughts were that if I had to complete a go-around, the bad guy would get away. I couldn't stand not being able to see anything. I announced that I was totally brownout.

The PC quickly took the controls and told me he could still see a building on his side of the aircraft. He completed the landing with me guarding the controls. Chalk 2 never made it even close to landing in their LZ, which was 50 to 60 meters away at another road intersection. They completed a go-around and landed back at the original takeoff point. We inserted our troops and headed back to Taji, which was less than five miles away, to wait for the extraction call.





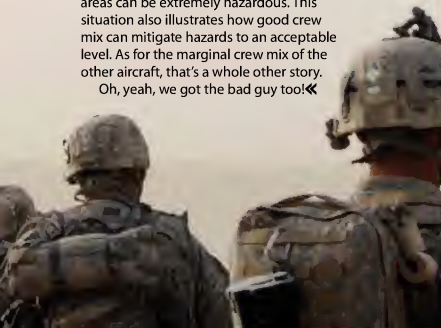
Our flight got the call for extraction just after midnight. We didn't need a route and we didn't have a timeline. We had a pickup zone (PZ) with a landing direction and it happened to be on the same road as the original LZ. We picked up our landing direction again, hit our release point and called the troops on the ground.

I transferred the controls after slowing to 70 KIAS. I told the PC that he should probably land since he had a visual reference during the last landing. After a three-way positive transfer of the flight controls, I called out airspeed, altitude and distance to the PZ. The PC gave the "bounce" call to the flight and began landing. This time, he lost visual cues and I didn't. In fact, I saw the ground getting closer to us through the chin bubble after we initially touched down. I shouted that we were rolling right and put my hand on the cyclic control to move it to the left to level us out. This put the left main landing gear on the ground. After he reduced the collective, the PC transferred the flight controls back to me and monitored the loading of our passengers.

Chalk 2, flown by our commander and a platoon leader, again failed to land on the first try. They did a go-around to our right and launched flares in the process, which started a fire in the field to the east. We again took off to the north and met our sister ship after their pickup.

This whole ordeal reveals how hastily planned air assault missions into unknown areas can be extremely hazardous. This situation also illustrates how good crew mix can mitigate hazards to an acceptable level. As for the marginal crew mix of the other aircraft, that's a whole other story.

Oh, yeah, we got the bad guy too!«



**make a movie,  
save a life.**



**Peer  
to Peer**



**The competition runs  
Oct. 1, 2009 to April 30, 2010**


**For more information and contest  
rules for Peer to Peer, go to  
[https://safety.army.mil/  
videocompetition](https://safety.army.mil/videocompetition).**

# Smashed, Trashed and Stranded on the Road

SGT. 1ST CLASS RUPPERT BAIRD

Company A, 2nd Helicopter Battalion, 151st Aviation (Security and Support)  
McEntire Joint National Guard Base  
Columbia, S.C.





**I**t was just before New Year's and I was leaving Fort Lewis, Wash., to move my Family back to South Carolina. I was coming off active duty and had rented a twin-axle trailer and installed a hitch on my minivan. This was a do-it-yourself move and we'd loaded all our worldly possessions into the trailer. Our 4-year-old daughter was in her car seat, strapped to the front passenger seat, and our 2-year-old son was in his car seat, strapped to the rear bench seat next to my wife. The Family cat was also with us as we left a few minutes before midnight.

I was anxious as we pulled out of Tacoma, Wash., and headed east toward Snoqualmie Pass and the Cascade Mountains. As we made our way through the pass, we encountered gusting winds that rocked the van and trailer. I slowed down to ensure I kept full control. After we got through the pass, the winds died down. We merged onto Interstate 82 and I settled in for a night of driving.

One of the strange anomalies of the interstate system is a loop on I-82 in southeastern Washington. I planned to bypass this loop by going through Prosser, Wash., on State Highway 221 and reentering I-82 just north of Umatilla, Ore. Mind you, this was before Google Maps and MapQuest, so the only thing I had was a map. It seemed logical to me that this would be a safe, well-traveled route.

As we pulled through

Prosser, I recognized the dangers posed by the ice, snow and wind and drove at or below the speed limit. I then began climbing into Horse Heaven Hills.

As I drove, I saw a warning sign for a 90-degree right turn and a 25-mph speed limit. I slowed, feeling sure I would be fine at 20 mph; however, the black ice didn't agree. As I eased around the turn, I felt the trailer rock. Thinking I had encountered winds again, I decelerated. That was a mistake. Even though the van made the corner, the trailer began sliding on the ice. Before I knew what happened, the van and trailer jackknifed and I was out of control. I tried steering into the direction of the skid, but to no avail. All I could do was hold on as my van was pushed diagonally across the road and into the oncoming lane. Fortunately, there were no other drivers on the road.

I watched helplessly as the van's passenger door struck a road sign, shattering glass all over my daughter and into the van. My wife had been sleeping on the van's floor and woke up just in time to feel the wheels come off the pavement as we encountered soft dirt on the roadside. We felt the van tilt and roll over at least twice before landing on its right side.

My daughter and son were screaming. I reached down from my now-elevated seat, brushed the glass shards off my daughter and found her unhurt. I then looked to the rear to check on my wife and son. He was firmly strapped into his car seat while my wife was sitting cross-legged on the interior right side of the van. Although stunned, she was amazingly calm. I repeatedly asked her if she and our son were all right. Incredibly, they were.

I looked forward and was surprised the van's engine, headlights, radio and heater were still functioning perfectly. I took a breath, shut off the van and smelled for gasoline. Fortunately, I didn't smell any fumes. Nevertheless, I decided we needed to exit the van immediately. I removed my seat belt, carefully pushed open the driver-side door, pulled myself out of the van and had my wife hand our children up to me. Then I helped my wife out of the van. A carload of boys rolled up to the accident scene. They helped me move

my wife and kids off the side of the van and placed them inside their warm car while I assessed the situation.

The rear hatch and the left-rear portion of the van's body



**If you're new to towing with your POV, visit the following link: <https://safety.army.mil/> and type "towing safety" in the search window.**

and roof were caved in. The trailer had stayed connected to the hitch and rolled over with us as we overturned in the minivan. The trailer doors had popped open, scattering many of our belongings, and our cat was gone. I returned over the next few days, but I never found him. The people of Prosser were incredible and took excellent care of us during our six-day stay.

The van and the trailer were totaled. We ended up driving home in the largest rental truck U-Haul had — the only one that fit a Family of four. We spent all of our travel money and maxed-out our credit card. Thankfully, the only injury was a bruise to my wife's shoulder. The rest of our trip home was uneventful.

I've always been impatient to get on the road. On this





journey, I let that get in the way of proper trip planning and risk assessment. I'd rented a trailer that was too large for my minivan. And, while I was aware of the black ice danger on the roads, I assumed my two years of winter driving had adequately prepared me for it. Unfortunately, an unfamiliar road, an extra-heavy load and a typical "GI" effort to save money proved to be my downfall.

Clearly, I should have hired a professional moving company. Also, I should have waited until the morning to leave, when much of the ice would have been melted. I also should have ensured everyone in the van remained properly buckled in.

The good thing about lessons learned is that you get the opportunity to avoid repeating your mistakes. Back then, online tools like the U.S. Army Combat Readiness/Safety Center's Travel Risk Planning System (TRIPS) didn't exist. Now that they do, I — as a full-time National Guardsman — use them. It sure beats being smashed, trashed and stranded on the road.◀

# Family strong!



## Family engagement kit

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Army Safe is Army Strong and that starts with a Soldier's Family. Have the information to help you and your Family stay SAFE.



# BEHOLD THE

**D**o you want to know the secret to staying warm?  
Don't get cold.

At the beginning of a winter training course here at the Northern Warfare Training Center (NWTTC) at Fort Wainwright, Alaska, I'll occasionally pose that question to a group of Soldiers. Some look disappointed when I tell them the answer, but others get it right away and their whole outlook on winter training changes in an instant. By the end of the course, most of them understand the simplicity of this complex and often daunting task.

Fort Wainwright is probably the coldest post in the U.S. military. During the winter months, the temperatures regularly drop to minus 20 F or below for weeks at a time. We teach units in U.S. Army Alaska (USARAK) and, to a smaller degree, other military personnel how to operate in a cold, snow-covered, mountainous area. We train about 500 students a year who then go back and become the trainers for their respective units. The following are some of the training tips we pass down to Soldiers.



# COLD

SGT. 1ST CLASS STEVEN DECKER  
Northern Warfare Training Center  
Fort Wainwright, Alaska

## Fuel Your Body

The first step to staying warm in a cold environment is to properly fuel your body. Depending on your exertion level, Soldiers should consume between 4,500 and 6,000 calories and three-and-a-half to five quarts of water per day. Light infantrymen will require the upper end of that scale, while someone who works in the tactical operations center will be on the lower end.

Meals, Ready to Eat (MREs) provide about 1,400 calories per menu, so four per day will usually do the job. Meals, Cold Weather (MCW) provide about 1,700 per meal. However, palatability is a challenge. MCWs require rehydration for the main meal component. This is best accomplished with boiling water. You can mix cold water with MCWs, but it will take longer to rehydrate and the food won't taste as pleasant.

An MRE can be used even after being frozen, but it must not be refrozen. The main components of the meal can be placed inside clothing for an hour or so to thaw or even in a sleeping bag overnight for a "warmish" breakfast. The other part of the meal, "grazing foods," should be eaten between meals to refuel your body. Remember, a near constant calorie intake is vital to staying warm.

## Cover Your Body

Clothing should do three things: insulate, ventilate and

provide protection from the wind. The older Extreme Cold Weather Clothing System (ECWCS) and new seven-layer Generation III ECWCS both do this very well. The challenge is figuring out what to do with all that clothing.

The most important measure to take with any clothing system is to layer. Start out with the lightest polypropylene underwear and build from there. The layers then must be protected by a shell. The ECWCS Gore-Tex pants/jacket combo is an excellent all-round choice. The soft-shell pants/jacket from the seven-layer system works best in high-aerobic activities in very cold conditions. A complete class on the proper use of the seven-layer system and ECWCS is available for download at <http://www.wainwright.army.mil/nwtc/slides.html>.

Heat management is a constant challenge when operating in cold weather. Knowing when to dump or hold heat is the key. I watch students after the 10-kilometer snowshoe march and quite a few will be dripping with sweat at the finish. They invariably say, "I just wanted to get it over with." I counter with, "What would you do if you were forced to stay outside for another five or so hours?" They usually don't have an answer.

Soldiers must ventilate before it is needed and reduce insulation before a movement or exertion. The big, puffy suit in the seven-layer system is meant to be put on while static

and put away when moving. Likewise, that fleece jacket may be soft and cuddly and quite the fashion accessory around post, but you really don't need to wear it on a good, long dismounted movement. If at all possible, have dry layers available to replace or upgrade clothing if needed.

## Move Your Body

Cold weather requires people to be proactive. If your fingers become cold, windmill your arms to force blood into the fingertips. Cold toes? Wiggle them or swing your legs. Shivering? Exercise a little. The point is to not allow cold to gain ground in your body.

Observe the other people around you, looking beyond the obvious. We know what is wrong with the Soldier who is shivering and twitching on the ground or has a white patch on his nose. The Soldier who escapes our attention is the one who stands perfectly still with his head drawn down between his shoulders and his arms hanging stiffly at his sides. He grumbles at tiny issues, mumbles when addressed, fumbles when handling simple tasks and stumbles when walking on easy ground. This Soldier needs help now; but just as important, look for the symptoms of cold weather injury in yourself.

At the NWTC, the cadre not only trains in the cold, they enjoy the weather. Winter doesn't have to be a time of fear and loathing. Embrace the cold — but be smart about it. ☞

# + INEXPERIENCE = INEFFECTIVE CREW = DISAST





# W COORDINATION ER

**PAULA ALLMAN**  
Strategic Communication Directorate  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

**T**he makeup of an aircrew can be an important factor in crew coordination errors. Let's examine an accident scenario involving an OH-58D maintenance test flight (MTF). We'll look at what happened, what should have happened and what we can learn from the experience.

The mission was to conduct preventive phase maintenance (PPM), which included an autorotational RPM check. The weather was agreeable, the preflight looked good and, on the surface, the crew mix seemed right for the mission. The maintenance examiner (ME) had more than 1,000 hours in the OH-58D and the pilot (PI) had almost 300 hours of flight time in the aircraft.

## **What Happened?**

It was a typical day. The crew met in the morning to ensure the aircraft would be ready for the MTF. They had lunch later that day with other members of the unit. That afternoon, the crew received the weather briefing and, shortly thereafter, departed for the maintenance test flight area (MTFA) to conduct the PPM.

The ME sat in the right seat and the PI in the left seat. After the majority of the MTF had been conducted in the MTFA, the crew planned to complete the autorotational RPM check in the traffic pattern upon return to the airfield. On their way back from the MTFA, tower informed them that the winds had shifted and for them to use the active runway. The ME requested to remain west of the airfield to avoid a fog layer and enter left, downwind from the west. The tower approved the request and, a few minutes later, the ME requested an altitude deviation to 2,000 feet mean sea level (MSL) to conduct the autorotational RPM check. The tower approved the request and, on final approach, the aircraft entered an autorotational descent to the active runway.

During the maneuver, the ME allowed the airspeed and rotor RPM



to decrease to a level that did not allow for sustained flight. The aircraft failed to recover from the autorotative descent and crashed on the runway, destroying the aircraft and fatally injuring the two crewmembers.

## What Went Wrong?

The circumstances indicate the crew failed to properly scan the aircraft's flight instruments while performing an autorotational RPM check. The ME allowed the airspeed to decrease below what is required for a steady state autorotation. As the airspeed decayed, the rate of descent increased.

When the aircraft dropped below 400 feet above ground level (AGL), the ME realized the throttle was still at idle and attempted to recover the aircraft. Unfortunately, there was insufficient time or altitude to allow the engine to spool the rotor system back to 100 percent and arrest the descent.

## What Should Have Happened?

According to the MTF manual for the OH-58D, Technical Manual 1-1520-248-MTF, the pilot should have performed the following for an autorotation RPM check:

**WARNING:** If autorotation RPM cannot be maintained in the normal operating range, terminate the test flight. Select an altitude that will allow a power recovery climb to be accomplished by 500 feet above ground level (AGL).

**NOTE:** Ensure ENG ANTI-ICE and HTR switches are OFF. MTF mission gross weight is 4,500 pounds. Nr (rotor speed) should be stabilized at 100 percent  $\pm 2$  percent at the selected baseline density altitude (DA) for your operating area. Nr will increase/decrease approximately 1 percent for every 1,000-foot increase/decrease in DA and/or 100-pound increase/decrease in gross weight.

(1) While maintaining 55  $\pm 5$  knots indicated airspeed (KIAS) and aircraft in trim,

lower collective to the full down position when a safe touchdown area can be reached.

(2) RPM: Confirm within limits.

(3) Throttle: Reduce to idle; confirm clutch disengagement and that engine gas generator speed (Ng) is stabilized at 63 to 65 percent. Check mast torque/engine torque are at or near zero percent.

(4) Aircraft: Check pedals for sufficient right pedal remaining and cyclic for normal position; note any marked increase or decrease in vibrations and/or unusual noises.

(5) Nr: Record with aircraft stabilized at 55  $\pm 5$  KIAS and in trim.

(6) Power recovery: Perform. Climb will be accomplished by 500 feet AGL. During power application, confirm clutch engagement. Maintain airspeed above 50 KIAS on climbout.

(7) Nr: Compare recorded Nr to Nr required for aircraft weight and DA. Adjust as required.

**LACK of EFFECTIVE  
aircrew COORDINATION  
continues to be a  
CONTRIBUTING factor  
in AVIATION accidents.**

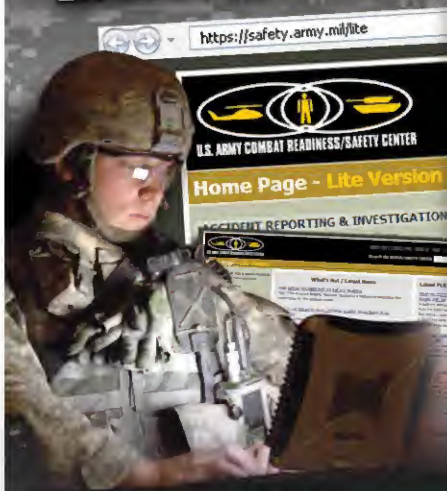
## Lessons Learned

There are lessons learned from this accident scenario. First, selecting the right crew mix is extremely important in accomplishing the mission safely. Leaders must have oversight of the flight schedule and risk assessment matrix to ensure the risk is, in fact, low and includes the proper crew mix to alleviate overconfidence. Risk assessments are tools to help leadership make smart, informed decisions.

The second lesson learned is twofold: a breakdown in crew coordination and ineffective crew briefs. Lack of effective aircrew coordination continues to be a contributing factor in aviation accidents. Aircrew coordination discipline begins with the entire crew acting as a team in mission planning, execution and after-action reviews.

During crew briefs, it is essential to discuss the duties and responsibilities of all aircrew members beforehand, including alternate plans/actions should unexpected circumstances occur. Making flight decisions at the planning table can reduce flight errors.◀

# SLOW CONNECTION? LIGHTEN UP!



<https://safety.army.mil/lite>

*The Safety Center's home page is now available in a lite capacity to allow forward-deployed Soldiers with limited Internet connectivity access to the risk mitigation tools and resources they need.*



**RICHARD FENNER**  
43rd Sustainment Brigade  
Fort Carson, Colo.

# Get to Know Your M

**T**echnical manuals (TMs) are designed to ensure Soldiers and civilian personnel follow the proper procedures and heed safety warnings when operating equipment. Furthermore, Army Regulation (AR) 385-10 and the unit safety program provide additional guidance on procedures units should adhere to when conducting assigned missions or tasks. Unfortunately, personnel sometimes fail to follow this guidance and are seriously injured or killed.



Units are mandated to have the appropriate TMs on hand for each piece of equipment within their respective unit and for each mission. Sometimes, however, personnel view a task as so routine that they choose to do it from memory rather than use the TM. These folks might even question why we use TMs in the first place. Well, the answer to that question is simple: it's because you can't memorize all the step-by-step procedures and safety warnings in them. For the Soldier mentioned in the following accident sequence, reading the TM would have saved him a world of pain.

### The Accident

One afternoon, a group of 88M (motor transport operator) Soldiers were given a standard routine task: conduct routine maintenance on M3 Container Roll In/Out Platforms (CROPs). A Soldier who was untrained and had very little experience was removing one of the two retaining pins that held a critical

“**SOLDIERS** also must be **PROPERLY** trained and **READ** the equipment's **TM** before **STARTING** any **TASK** or mission, no matter how **ROUTINE** or **SMALL** it may **SEEM.**”

arm. Other Soldiers in the immediate area quickly rendered first aid while another Soldier summoned a noncommissioned officer to the scene. The injured Soldier was transported to a hospital, where he underwent several surgeries to fix the injury to his arm. The Soldier was also placed on 30 days of convalescent leave.

### Lessons Learned

The lesson learned from this accident is supervisors must provide adequate oversight for their Soldiers. Soldiers also must be properly trained and read the equipment's TM before starting any task or mission, no matter how routine or small it may seem.

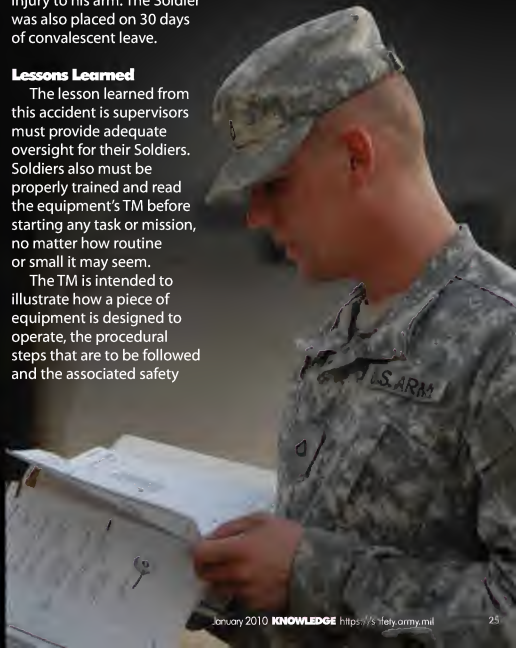
The TM is intended to illustrate how a piece of equipment is designed to operate, the procedural steps that are to be followed and the associated safety

and warning hazards. Never become complacent and deviate from following the standard practical procedure of reading an equipment TM. It might just save your life, your Soldiers' lives or prevent injury to others around you.◀

# annuals


piece of the equipment in place. Neither the supervisor nor the Soldier had read the TM, which revealed that this procedure involved using a lifting device such as a crane.

As the Soldier removed the last pin, the 370-pound CROP arch fell onto his right



# Cheating Death

**CHIEF WARRANT OFFICER 2 HERBERT W. STOVER IV**  
A Company, 2nd Battalion, 224th Aviation Regiment  
Virginia Army National Guard  
Sandston, Va.



**W**hile most Soldiers, Sailors, Marines and Airmen concentrate on the insurgent enemy in Iraq, Army aviation faces a unique enemy not associated with any political faction. That foe is deteriorating weather conditions. In the following case, encountering instrument meteorological conditions inadvertently endangered the lives of all onboard four aircraft.

As with every mission, we ran through our checklists, paying particular attention to the weather. We requested current and forecast weather conditions from several different agencies. While in Iraq, we noticed most weather reports were skewed or, as the pilots sensed, deceptive.

Our minimum requirements for night flying were a 1,000-foot ceiling and three statute miles visibility. Every night

that we checked the weather, the current condition reports and forecasts were inaccurate. Weather professionals weren't always accurate at home station either. In fact, they were wrong a lot too. However, in Iraq, we wondered if there was command pressure to not report below the legal limits, forcing aircrews to launch and fly the missions.

This particular time, we checked weather and, you

guessed it, the current conditions and forecasts all said we would experience visibility no less than three miles — right at our minimum to fly — through expected time of arrival (ETA) plus one hour. Our instincts and the cloudy skies we'd seen on our way in to work told us to consult the satellite imagery on the Internet to see what was brewing in the area. We saw large swirls of thick clouds moving our way, but the



forecasts and current conditions issued by the weather agencies cited nothing but clear weather for the night ... at least "clear" as defined by the three-mile visibility requirement extending through our ETA by at least an hour.

At the preflight briefing, the briefing officer started with, "This is a lie, but I'll read it to you anyway," and then read

the official weather forecast. We requested a more detailed forecast, specifically asking about the activity we were seeing on the satellite. Again, we were told weather was not going to be a factor during our flight period. We reviewed our flight route and, to mitigate our perceived risk, planned weather checks at specific points during the flight. Then, we took off on the mission.

The first leg left us with no doubt that the weather was acceptable to make the next leg of the trip. We continued heading east into Baghdad, flying away from our suspected foul weather coming in from the southeast. As we continued the mission, we began to see lightning flashes through our night vision goggles (NVG). While they were not visible to the naked eye, they were close enough that we requested weather updates over the radio before our planned weather

checkpoints farther to the east.

The controlling agency over Baghdad gave a legal visibility report and made no mention of lightning or impending storms. "Let's hurry up because something is brewing and these bastards aren't admitting it," the pilot in command (PC) called over the radio to the other aircraft as we made our cargo drop and pickup in Baghdad.

We took off and asked the controlling agency for a weather update. Again, we were told nothing significant. The passengers had no idea what was transpiring in the cockpit or in the air around them. They trusted us to keep them safe and do the right thing; however, the system was failing.

Suddenly, lightning struck just to the east of our location. By our estimation, it was about five miles away. We called the controlling agency and reported the adverse weather we were

“ If **CREWS** don't **PERFORM** composite **RISK MANAGEMENT** and double-check **WEATHER INFORMATION** from several different **SOURCES**, then Army **AVIATION** will have more **INCIDENTS** like this. ”

experiencing. This was the first true weather update the system received, which was then reported to other aircraft. Knowing there were several aircraft sorties in the sky between Al Taqaddum (TQ) and Baghdad, we felt the need to correct the forecast weather reports with pilot-observed updates called PIREPS. We joked in the cockpit that our reports wouldn't be communicated to the other flight crews.

We flew west, heading back to TQ, thinking the weather was behind us to the east over Baghdad. However, our goggles suddenly picked up lightning in front of us to the west. As the pilot not on the controls, I announced the conditions and took off my NVG to see if the lightning was visible with the naked eye. It wasn't.

Halfway back to TQ, heading west, we changed controlling agencies and requested a weather update from Fallujah. The update went something like this, although I'm not 100 percent certain about the ceiling height, though it was way above our minimum of 1,000 feet:

"Winds from the south at five knots, visibility five miles with a ceiling of 20,000 feet."

The PC broke squelch and asked Fallujah, "What about any reporting of thunderstorms?"

Fallujah replied with, "Nothing has been reported within 40 nautical miles, sir."

Over the intercom, the PC asked, "Am I crazy? Doesn't that lightning look closer than 40 miles away?" Then, keying the radio to the Fallujah controller, he said, "Well, I'm not sure what your source for weather is, but it's wrong. And if you'd step outside

and look, you would see there is lightning within 40 miles of here. Thanks for the update. We're on our way to TQ."

With that bitter exchange, we continued to the west thinking the worst of the weather was behind us, until we noticed the visibility dropping. TQ is only a 15-minute flight from Fallujah. Five minutes west of Fallujah, the visibility dropped to less than three miles. We began preparations for landing when the visibility dropped to almost nothing. The runway was less than four miles from our position and we couldn't see it. Each station in the aircraft announced visibility less than a half-mile.

This is when we began to sweat profusely. We went into survival mode, relying on our training and gut instincts to communicate and take actions quickly, with no time for review.

I keyed the microphone to check on the second aircraft at our six. Its crew replied they could still see us. I talked to TQ tower faster than they could talk back.

Three miles out from landing, we declared ourselves en route to the airfield but then pulled a 180-degree turn for fear of other aircraft in the airspace.

"Return to Fallujah," we radioed the second aircraft. They acknowledged and followed. We called TQ tower, telling them we were outbound, heading back west, with visibility of a quarter-mile. Another aircraft came over the radio approaching TQ from the northeast, where they reported visibility as unlimited. Our response was to turn in the direction of the "unlimited" visibility. I entered

a point just north of TQ into the global positioning system and called the tower for permission to change heading to the northeast, praying to break out of this mess. Permission was granted, but the visibility was no better.

Straight down was the only direction where we could see anything. We certainly had many unanswered questions: Should we land in the desert — right here, right now — even though we're outside the wire from TQ? Altitude — 200 feet. Map out. Are there towers below us? Wires? Other structures? No. Open area? Good! Put it down? No! Visibility no better, left turn, straight in.

"Tower, we're inbound." Three-tenths of a mile, no runway lights; two-tenths, a dim line; going straight down; one-tenth, a runway. Whew! OK, here we are.

"Tower, we're landing here and shutting down on taxiway Romeo."

We set the brakes and parked the aircraft. I looked at the PC and he looked at me. We both had smiles on our faces that said, "We

did it, don't want to do it again and holy crap, let's get out of this thing!"

The relief was like nothing I'd ever experienced. My chest felt like a 1,000-pound brick had been lifted off it. I took the largest, deepest breaths I'd ever taken. Shutdown was quick and we started shedding our equipment quickly. We wanted out and to put our feet on solid ground, under our terms. There were three other aircraft with crews similarly elated to be on the ground. As the crews met on the taxiway, one of the more experienced pilots shook my shoulder and said, "Well, you're not a virgin anymore!"

This risk was not worth the reward. We were carrying troops mostly to get them out on rest and relaxation leave or pass. If crews don't perform composite risk management and double-check weather information from several different sources, then Army aviation will have more incidents like this. Statistically, we won the lottery that night. If we hadn't made it that night, the command would have had to write sympathy letters to our next of kin. The reward that night was we all lived for another mission.◀

# ARE YOU READY?

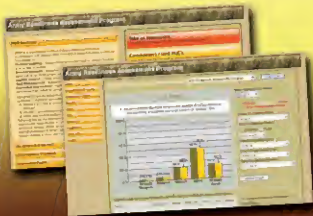


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# Michel Story

**BOB VAN ELSBERG**  
Strategic Communication Directorate  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

**J**une 22, 2009, is a day that Spc. Michelle L. Waters of the Kentucky Army National Guard will never forget. As she got onto the highway to drive home, little did she know her life was about to forever change.

That Monday was Waters' "drop day" — an extra day off she got every other weekend for working nine-hour days as a full-time National Guardsman. She'd taken advantage of the long weekend to visit friends who lived in Ripley, Tenn., about five hours east of where she lived in Taylorsville, Ky. She'd gotten up about 8 a.m. after a good night's sleep and later hit the road. As she headed north, she stopped for gas and a soda. She'd driven the route countless times before with nothing extraordinary happening. She had no reason to believe that day would be any different.

But that day was about to become very different.

Wendy Freeman was headed southbound on Kentucky's Purchase Parkway, which offered two lanes in each direction divided by a grassy median. It was 2:50 p.m. when she saw Waters' car go out of control in the oncoming lanes.

"I just saw her kind of 'fall' (drift) off the right shoulder of the road and then it was like she overcorrected," Freeman said.

Waters, perhaps a bit fatigued behind the wheel, had drifted onto the right shoulder. Recognizing her mistake, she swerved hard to the left, sending her car out of control across both lanes and into the median. As the car plunged down the median's grassy side, it slammed nose-first

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into a concrete culvert. The violent impact sent her Honda Accord cartwheeling down the median into the oncoming fast lane, landing upright in front of Freeman. Avoiding the wreck, she stopped and ran to Waters' car to see if she could help.

"The car was totaled and she was unconscious when I got to her, but she came around quickly," Freeman said. "By the time the ambulance got there, she was coherent."

The accident scene was only a few miles from Benton, Ky., the location of the Marshall County Sheriff's Department. Deputy Dennis Lewis had been on duty less than an hour when he got the call from the dispatcher.

"It was 'toned-out' to emergency medical services (EMS) and the fire department with a 'serious overturned entrapment,' meaning that the driver was unable to get out of the vehicle under their own power," he said. "All agencies ran Signal Nine emergency traffic to her location on the Purchase Parkway."

Lewis got to the accident scene shortly after the fire department. Accident debris was scattered everywhere. He quickly went to Waters' car and looked inside. Despite the damage to the car's exterior, the driver's compartment remained relatively intact.

"She was sitting still in the driver's seat — her seat belt on — very obviously and visibly upset," Lewis said. "I don't really know that, at the time, she actually knew what had happened and what was going on. But she knew she was hurt and upset."

After EMS arrived, they faced the task of getting Waters out of the wrecked car. The driver-side door had become jammed during the crash. Lewis said, "We pried and prodded and did everything we could with the limited tools we had until, finally, we got the door to pop open."

EMS technicians carefully removed Waters from her car and placed her in an ambulance headed for Lourdes Hospital in Paducah, Ky. Although she drifted in and out of consciousness, she remembered bits and pieces of the ride.

"I vaguely remember waking up and thinking how surreal it was," she said. "It seemed like a dream — like it couldn't have been real because you don't expect things like this to happen to you. And I remember the emergency medical technician asking me for my name and for contact numbers — which I guess I provided — but I don't remember doing that. I must have passed out again and then I woke up a little bit later at the hospital."

When she arrived at the hospital at 3:43 p.m., Dr. Shiraz Patel, an orthopedic surgeon, met her and assessed her injuries. Broken glass from the driver-side window had badly cut her left shoulder. Her right elbow, Patel said, was in "horrible condition."

Waters recalled seeing Patel.


"He basically told me what had happened — that it looked like I had broken my right arm. I must have passed out again because when I woke up in the holding area, there was this little Mexican woman praying over me. I thought, 'Oh, my God, am I dying — what's going on here?'"

Patel ordered Waters be given a series of CT scans to X-ray her injuries from different angles and help him understand their extent. It wasn't a pleasant experience for her.

"I remember being X-rayed," she said. "That's really when it hit me that this is real. When they moved me from the gurney to the X-ray table, I was in an excruciating amount of pain."

Uncertain of her condition, Waters was badly shaken, according to Patel.

"She was scared — she was very scared that she was going to lose her



arm," he said. He calmed her by telling her, "Everything is going to be fine. We're going to take you to the operating room and get you comfortable real fast."

Patel knew she would need surgery within 72 hours. However, he first had to stabilize her arm and reduce the swelling that could block the blood flow to her forearm or damage the nerves to her hand. He accomplished that by splinting her arm to keep it straight and placing ice on the injury to control the swelling. On Waters' third day in the hospital, Patel decided to operate.

Waters' right elbow was shattered. Both the inner and outer condyles (the bony protuberances you can feel on the inside and outside of your elbow) were broken, leaving nothing for the bones of her forearm to move against. Left unrepaired, her right arm would be useless. Ultimately, through the use of steel plates, pins and screws, Patel was able to reconstruct her elbow well enough for her to regain about a 30-degree range of movement in her right arm when she left the hospital. In the three months since her surgery, that has improved to 80 degrees. Patel's goal is for her to improve to as much as 130 degrees — just 10 degrees short of the full range of motion.

Physical therapy is helping her regain flexibility in her elbow.

Waters' dramatic accident would have had a different ending had she not been wearing a seat belt, Patel said.

"She wouldn't have been here (survived to make it to the hospital) or, worse, she would have been paralyzed or in a coma," he said.

And the doctor knew whereof he spoke. Starting his career in 1993 working a trauma unit in St. Louis, he saw people die who, had they worn seat belts, would have lived to make it to the operating table. Five years later, when seat belts became mandatory and air bags had been added to supplement seat belts, he saw a huge change. Patients were coming in with new injuries the doctors hadn't seen before — things like crushed ankles from floorboards coming up or dashboard-related injuries from where they pushed back onto drivers. Those types of injuries had always been there. The difference was that accident victims who previously ended up on morgue slabs were, instead, ending up on operating tables.

Waters is grateful she survived the accident. Two days after her crash, her grandmother died in the hospital. Had it not been for her seat belt, her father — Fort Knox Garrison Command Sgt. Maj. Charles Waters — would have been attending two funerals that week — one for his mother and another for his daughter. It's a grief he described as "unimaginable."

"You never know — tomorrow is not guaranteed," Waters said. "The decisions you make in your life, they don't just affect you — they affect your family, friends and colleagues at work."

As Waters considered what might have happened that day, tears flowed from her eyes.

"It kills me to think I could have put my family through a double funeral," she said. "I'll never take them for granted. The fact something like this happened shows you just how fragile life is."◀

# Being a Father, NCO and Leader



**BOB VAN ELSBERG**  
Strategic Communication Directorate  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

**Command Sgt. Maj. Charles P. Waters is Army through and through. A tough, career Soldier with 30 years of service, he has served in armor and cavalry units. He saw combat during Desert Shield/Desert Storm and Operation Iraqi Freedom. During the past three years, he has served at Fort Knox, Ky., as the garrison command sergeant major.**

June 2009 was a tough month for Waters and his family. His mother had undergone open-heart surgery in a hospital in South Carolina and then suffered deadly complications. He'd just left the hospital one afternoon when his wife's cell phone rang. An emergency medical technician (EMT) in an ambulance hundreds of miles away was calling with information that would drive the family deeper into crisis.

Waters said, "The person on the other side of the phone asked my wife, 'Are you the parents of Michelle Waters? My wife said, 'Yes, what's wrong?' and she said, 'Your daughter was involved in an accident.' At that time, my wife quickly handed the phone over to me. I spoke to the lady and she gave me what information she could at the time."

The news put him in an emotional bind. At that moment, his mother was struggling for life in the hospital. At the same time, his daughter was being rushed to

Lourdes Hospital in Paducah, Ky., for emergency surgery after her car cartwheeled multiple times. His heart was torn in both directions.

"There is always the fear of the unknown," he said. Although the EMT explained his daughter had been stabilized, there was no way of determining the extent of her injuries at that moment.

"I was concerned about that and I was torn between trying to figure out how we were going to divide forces to deal with both critical issues at the same time," Waters said. "It made it difficult on the family, to say the least."

Waters' mother passed away two days after his daughter's accident. Michelle was released from the hospital about the same time as her parents came back from South Carolina. In no condition to drive or take care of herself, a friend drove her back from Paducah to her parents' house in Elizabethtown, Ky. Her father

remembered how he felt when he saw his badly injured daughter.

"I was relieved by the fact that she was still alive," he said, thankful Michelle had used her seat belts, which saved her life. "I was also told the preliminary report said there's only two ways folks normally come from an accident like that — they're either paralyzed for life or they're dead. I felt blessed that she was still with us."

Waters knows what it means when someone doesn't survive. While stationed at Fort Polk, La., he had a Soldier who was not so fortunate. The Soldier fell asleep, ran off the road, struck a tree and was killed.

"The report stated he was not belted in and he was thrown from the vehicle," Waters said.

While he may take his beret off when he walks through his front door at night, Waters never takes off his "safety" hat. He knows his responsibility for the safety



of his Soldiers doesn't end at the end of duty hours. He knows that what happens off duty affects what happens on duty.

He said, "You look at the statistics that are briefed to the chain of command that come down through the Army system. You see if there is any way you can reach out to the younger generation and, in some cases, the older generation, through the safety briefs in such a manner that it will relate to them."

Sometimes that means being a bit creative, he said. While at Fort Polk, he would scan the police blotter for "teaching" opportunities. He'd

make the stories generic and interesting by pulling out the names and injecting a bit of humor. He'd pull the Soldiers together on Mondays during command maintenance to pass along a few jewels.

"We used to call them 'CNN Downloads,'" he said. "The Soldiers actually liked it from a perspective that only 'certain' Soldiers do crazy things that just make you scratch your head. I would try to make it somewhat entertaining, but the point was always going back to what not to do."

And it wasn't just his Soldiers who got the treatment — he shared

## MAKING THE MESSAGE ST

**G**etting Soldiers to buy into the idea of managing the risks in their life isn't always easy. Because many see themselves as young and invincible, they don't understand the importance of making "safe" decisions. According to Fort Knox Garrison Command Sgt. Maj. Charles P. Waters, this creates another opportunity for noncommissioned officers (NCOs) to exercise leadership.

"I think we need to be aggressive and attack what we know to be right when it comes to safety and driving POVs," he said. "We cannot allow Soldiers to violate standards because there is a cost. If our most precious resource is the Soldier, then they deserve our greatest efforts to protect them."

But getting Soldiers to understand that can be tough, Waters said.

"All of these things can fall on deaf ears

if you're not careful," he said. "You've got to remember your audience and ensure that when you engage them the message is being received. Sometimes that is easier said than done with the generation that we have today. I like inputting humor into it. If you have a standard safety brief, sometimes you've got to change it up a little bit — spice it up so that they still get the point when they walk away."

Beyond the humor,

Leaders are responsible to ensure their Soldiers meet the standards.

"I think the most important thing we, as Leaders, need to do is constantly watch for violations with our Soldiers when we see them in day-to-day operations," he said. "We have to hold them accountable and make sure if we see violations, we correct them on the spot. Regardless how busy we are, we must take the time to make



them with his Family.

"Safety is a choice that you make in life. It's a lifestyle that you live, and you have to view it from that perspective," he said. "You have to address this from an issue that really hits close to the heart — the fact that if you really like life and enjoy living, you have to protect yourself. You could be the best driver in the world and still not be around tomorrow if a bad driver hits you."

That point hit home with Michelle as she grew up. Buckling up when she got inside a vehicle became second nature. But what if it hadn't been?

What if she hadn't buckled up that June morning?

"I'm not sure how I would have handled that," Waters said. "... I can't possibly imagine how tough it would be going from Mom's funeral to Michelle's all in one week. Michelle is my first-born. She has so much potential to just to go out and grab life and enjoy it. It means the world to me and her mother that we still have her in our life. I believe that those in our world would be a lot less happy if she were not still with us."◀

# TICK

**BOB VAN ELSBERG**  
Strategic Communication Directorate  
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Fort Rucker, Ala.


on-the-spot corrections and hold them accountable."

Holding Soldiers accountable helps them grasp the serious consequences of their decisions — consequences they might not recognize at the time. Waters explained that when Soldiers realize it only takes a fraction of a second to lose control of their vehicle and die in an accident, they take life more seriously.

NCOs who wear their stripes with authority and uphold safety standards

can make a real difference, Waters said.

"It's by our actions and aggressiveness that we can impact the world in which we live and those we come into contact with on a daily basis," he said. "That's true whether they be Soldiers, civilians who work for us or our own Families."◀



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# LOST

## AVIATION

### AH-64D



#### CLASS A

- The aircraft contacted the ground during a descending turn and sustained severe damage.

#### CLASS C

- The aircraft experienced a No. 2 generator fire while the crew was repositioning from the forward arming and refueling point to parking.

### OH-58A



#### CLASS B

- The pilot was returning to the airfield after refueling when he

reported engine surges and uncommanded yaws. The pilot performed an autorotation, resulting in a hard landing.

### OH-58D(I)



#### CLASS A

- Fire initiated onboard the aircraft during run-up for flight. The crew was able to egress without injury.

### OH-58D(R)



#### CLASS B

- The aircraft's right skid tube contacted terrain during close combat attack operations. The

air bags deployed; however, the crew maintained level flight and returned to the forward operating base.

### TH-67A



#### CLASS B

- The aircraft main rotor system contacted terrain during a slope landing iteration.

### UH-60A



#### CLASS A

- The aircraft crashed as the crew was returning to home base in deteriorating weather.

## CLASS C

- The aircraft main rotor system contacted trees during confined area operations. All four blades sustained damage.

## UAS

### RQ-5A



## CLASS C

- The nose landing gear of the unmanned aircraft contacted the arresting gear drum on the runway as the crew was conducting an abort-takeoff procedure, causing the landing gear to separate from the fuselage.

## GROUND

### ACV



## CLASS A

- Two Soldiers died when a bridge collapsed as they drove their M1126 Stryker across it during a five-vehicle convoy movement. The Stryker fell about 50 feet and overturned in a dry riverbed. Five other Soldiers aboard the vehicle were injured and evacuated to a medical center.

### AMV



## CLASS A

- Two Soldiers suffered fatal injuries when their M1151 HMMWV overturned after striking a dirt mound in the roadway.
- A Soldier was killed when the M1151 HMMWV he was operating overturned.
- A Soldier was fatally injured when he was struck by a government vehicle driven by another Soldier.

## Personnel Injury



## CLASS A

- A Soldier suffered fatal injuries when the loaded rifle he was handling fired and struck him in the eye. At the time of the accident, the Soldier was attempting to spin the rifle.

## DRIVING

### POV



## CLASS A

- A Soldier was negotiating a curve in his privately owned vehicle (POV) when an oncoming vehicle crossed the centerline and hit him head-on. The Soldier's vehicle overturned and he suffered fatal injuries. The Soldier was wearing his seat belt.

- A Soldier was driving with two other Soldiers as passengers when he drifted into the oncoming lanes of traffic. A tractor-trailer in the oncoming lanes swerved onto the right shoulder, but was unable to avoid hitting the Soldier's POV. The Soldier was evacuated to a local medical center, where he later died during surgery. Both passengers survived with non-life-threatening injuries. All three Soldiers were wearing their seat belts.

- A Soldier was driving her POV when she drifted off the right side of the road, overcorrected and caused the vehicle to overturn and enter the median. The driver, who was not wearing her seat belt, was ejected. She was taken to a medical facility for treatment, but died two days later after being removed from life support.

# ARMY >> AVIATION LOSSES

Fiscal 2010

as of Dec. 3, 2009



Class A Fatalities

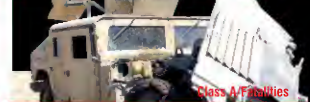
ATTACK	0/0
RECON	1/2
UTILITY	2/1
CARGO	1/0
TRAINING	0/0
FIXED-WING	1/0
UAS	1/0

**TOTAL 6/3**

# ARMY >> GROUND LOSSES

Fiscal 2010

as of Dec. 3, 2009



Class A Fatalities

AMV	3/2
ACV	2/2
PERSONNEL INJURY <small>includes weapons-handling accidents</small>	6/7
FIRE/EXPLOSIVE	0/0
PROPERTY DAMAGE	0/0

**TOTAL 11/11**

- A Soldier was driving his POV en route to his duty station when an oncoming vehicle crossed the centerline and struck him head-on, killing him on impact.
- A Soldier lost control of his POV, slid passenger-side first into an intersection and collided with a van. The Soldier was pronounced dead at the scene.
- A Soldier in emergency leave status was located by a state trooper at the scene of a single-vehicle crash. The Soldier had driven off the road and struck a tree, resulting in fatal injuries.
- A Soldier was on emergency leave when his POV left the road on an S-curve, crossed the median and oncoming lanes and struck a building. The Soldier was taken to a medical center, where he died three days later.
- A Soldier was driving his POV with another Soldier as a passenger when he lost control, left the road and struck a tree. The Soldier-passenger was taken to a medical center, where he was pronounced dead.
- A Soldier was driving his POV while on post-deployment block leave when he went through a T-intersection and descended 30 feet into a water-filled ravine. The Soldier died at the scene.

collided head-on with an approaching sport utility vehicle. The Soldier, who was reportedly wearing all required personal protective equipment, was pronounced dead at the scene.

- A Soldier was riding his POM and leading two other riders when he struck the rear of a vehicle stopped in the left lane to make a left-hand turn. The Soldier, who was wearing his helmet, suffered fatal injuries.
- A Soldier riding with a group lost control in a curve, entered the shoulder and struck a guardrail, suffering fatal injuries. The Soldier was wearing his helmet.

*Editor's note: Information published in the accident briefs section is based on preliminary loss reports submitted by units and is subject to change. For more information on selected accident briefs, e-mail safe.knowledge@conus.army.mil.*

# REAL



## POV DRIVING LOSSES

Fiscal 2010

as of Dec. 3, 2009

Class A/Fatalities

CAR	8/9
SUV/JEEP	2/2
TRUCK	2/2
MOTORCYCLE	4/4
PEDESTRIAN	3/3
OTHER*	1/1

\*Includes: vans and ATVs

### POM



#### CLASS A

- A Soldier was riding his newly purchased privately owned motorcycle (POM) when he

# 21

## TOTAL DEATHS

Fiscal 2009: 21 3-year average: 18



# WORTH THE RISK?

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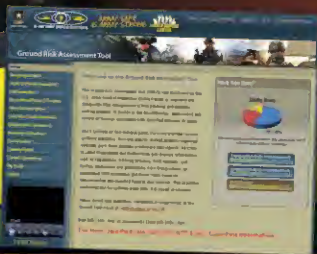
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